National Aeronautics and Space Administration

NASA's Impact in Connecticut: A Tech Transfer Perspective

You know that NASA studies our planet, our sun, the solar system, and the Universe. But did you know about the space program's economic impact here on Earth?

In 2011, NASA invested over **$40 million** in the state of Connecticut.

Since 2001, NASA's SBIR/STTR Program has invested nearly **$24 million** in **27 Connecticut companies** and more than **$1.2 billion** nationwide.

How NASA's SBIR/STTR Program Benefits Connecticut

NASA is committed to moving technologies and innovations into the mainstream of the U.S. economy, and the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program helps fulfill this goal.

SBIR/STTR stimulates technological innovation by encouraging small, high-tech companies—particularly minority and disadvantaged businesses—to partner with NASA to help meet its research and development needs in key technology areas. At the same time, this program strengthens small companies by enabling them to bring cutting-edge new products into the U.S. economy.

The list to the right highlights Connecticut businesses that received SBIR/STTR contracts from NASA since 2001. **(Visit http://sbir.nasa.gov for more information on the SBIR/STTR program.)**

www.nasa.gov

NASA SBIR/STTR Companies in Connecticut

Advanced Fuel Research, Inc.	East Hartford
AeroComposites, Inc.	Kensington
Air-Lock, Inc.	Milford
Ciencia, Inc.	East Hartford
Connecticut Analytical Corporation	Bethany
Flemming Tinker, LLC	Higganum
Flow Parametrics, LLC	Ivoryton
FuelCell Energy	Danbury
Global Engineering & Materials, Inc.	East Lyme
Infinity Fuel Cell and Hydrogen, Inc.	Windsor
Infinity Fuel Cell and Hydrogen, LLC	Suffield
Materials Technologies Corporation	Monroe
NanoSciences Corporation/NanoSystems, Inc.	Oxford
ODIS, Inc.	Shelton
Precision Combustion, Inc.	North Haven
Proton Energy Systems	Wallingford
Qualtech Systems, Inc.	East Hartford
R&D Dynamics Corporation	Bloomfield
Real-Time Analyzers, Inc.	Middletown
Rugate Technologies, Inc.	Oxford
Science Engineering Associates, Inc.	Mansfield Center
Steven Winter Associates, Inc.	Norwalk
Sustainable Innovations, LLC	Glastonbury
Thoughtventions Unlimited, LLC	Glastonbury
Wolf Engineering, LLC	Somers
Yardney Technical Products, Inc.	Pawcatuck

connecticut

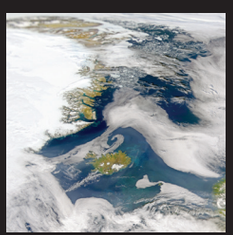
How NASA Spinoffs Benefit Connecticut

Toolset Detects Problems, Maintains System Health in Many Industries *(East Hartford)*
Qualtech Systems, Inc. collaborated with NASA to adapt a health management toolset to detect and isolate electromechanical problems on the International Space Station. Multiple NASA centers now use the software for complex research applications that guide engineers in assessing the health of systems, pinpointing and troubleshooting problems, and supporting maintenance and repairs. Commercially, Qualtech has tailored the software for use with transportation systems, medical equipment, factory systems, telecommunications, and refineries.

Space Exploration Software Enhances Medical Diagnostic Imaging *(New Haven)*
Advanced imaging software developed for exploration spacecraft is now improving diagnoses made from several medical imaging tools. Hierarchical segmentation (HSEG) software organizes pixels into regions based on spectral similarity, enabling users to zero in on areas of interest. Bartron Medical Imaging, Inc. licensed the HSEG software for use with medical imaging and has received Food and Drug Administration approval to analyze imagery from diagnostic scans, ultrasounds, digitized x-rays and mammograms, and soft-tissue slides such as Pap smears.

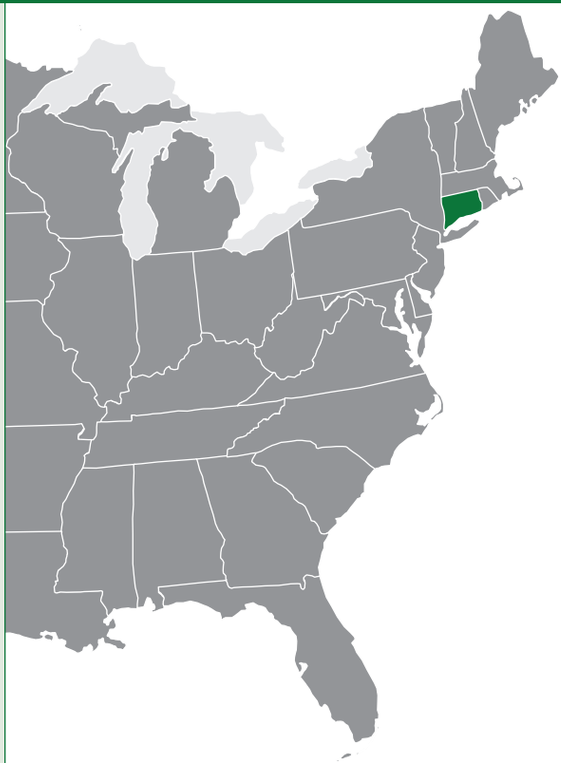
Smart Software Enables Content Management System for Host of Industries *(Stamford)*
NASA partnered with Xerox Corporation to enhance a database software storage system that several centers use to manage, store, and retrieve documents. The software combines object-oriented data with relational models, enabling users to access information stored throughout an enterprise. Xerox integrated the information-on-demand elements of the NASA collaboration into its own content management solution, which it now sells to customers in the educational, financial, health care, manufacturing, and legal services industries.

Magnetic Nanocomposite Technology Achieves High Efficiency Up To Gigahertz Range *(Manchester)*
Inframat Corporation received NASA funds to fabricate high-frequency, magnetic/ceramic nanocomposites to advance performance of NASA's electronic, power-generating equipment. The company's commercial magnetic nanocomposite technology is 10 times more efficient than conventional magnetic materials of the same size and has electrical properties that extend into the gigahertz range. Commercial applications for this technology include power converters, antennas, broadband filters, sensors, radio frequency switches, microwave circulators, and semiconductor wafers.



Technology Provides Real-Time Data of Ocean Properties *(East Hartford)*
NASA and Ciencia, Inc. collaborated to produce a device that could measure the fluxes of carbon and associated biogenic elements in the ocean. The result is a fully submersible oceanographic vertical profiler for *in situ*, real-time measurements of chlorophyll concentration and phytoplankton photochemical efficiency. Now used to monitor Earth's oceans and to help biologists study fisheries and ecosystems, potential uses for the instrument include noninvasive real-time process monitoring for food manufacturing and pharmaceutical production.

Rehab Device Helps Horses and Humans Recover From Leg Injuries *(South Windsor)*
A NASA-developed device helps humans and horses recover from leg injuries. Cable-compliant joints (CCJs) consist of short cable segments connected to structural elements, providing six directions of movement, twisting, and alignment. In both the equine and human versions, Enduro Medical Technology incorporates CCJs into a walker with a flexible harness that supports the torso and imitates hip joint movement. The technology provides a stable physical therapy environment for humans and allows horses to remain standing during anesthesia and rehabilitation.



NASA actively seeks partnerships with U.S. companies that can license NASA innovations and create "spinoffs" in areas such as health and medicine, consumer goods, transportation, renewable energy, and manufacturing. When businesses leverage NASA technologies to develop new products, it not only benefits the regional economy, but significantly strengthens the nation's competitiveness in the global marketplace.

NASA's centers across the country have helped 35 Connecticut companies develop revolutionary spinoff technologies.

Learn more about how NASA innovations benefit the public in *Spinoff*, an annual publication that highlights NASA's most significant technology transfer successes.
(Available at: http://www.sti.nasa.gov/tto)

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